

Abstract Submitted
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Optimized production of NaRb Feshbach molecules¹ JUN YU LIN, JUNYU HE, XIN YE, DAJUN WANG, The Chinese University of Hong Kong, CUHK TEAM — The conversion from free atom pairs to weakly bound Feshbach molecules via magnetoassociation is a critical step for the quest toward a quantum degenerate sample of ultracold polar molecules. Although the basic principles for achieving the best conversion efficiency have been laid out a long time ago, the experimentally demonstrated results are typically far from meeting the expectations. In the poster, we will present our recent result in optimizing the production of NaRb Feshbach molecules. By using a larger, colder and less dense mixture of Na Bose-Einstein and Rb thermal atoms, we gain a factor of two increase in the absolute number of Feshbach molecules. We also observe a molecule-molecule loss resonance when the binding energy is tuning by the magnetic field. The possibility of magnetoassociation starting from two condensates will also be discussed.

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